

Decision Analysis and Game Theory (m62210p)

Instructors: *M.ZAZANIS*

Elective Course, 3rd or 4th semester, 5 ECTS units

Course level: Graduate (MSc)

Language: Greek (or English if foreign students attend)

Course Description

Decision processes, decision criteria, a priori criterion, a posteriori criterion, decision trees, utility, Von Neumann utilities, games, strategies, stable games, unstable games solution by linear programming, dominance.

Prerequisites

Probabilities, Linear Algebra.

Target Learning Outcomes

The students will be taught decision processes, decision criteria, apriori criterion, aposteriori criterion, utility. They will be able to construct decision trees. They will also be able to solve find the optimal solution of a game using linear programming.

Recommended Bibliography

- E. Mageirou, Games and Decisions, Editions Kritiki, 2012.
- K. Milolidakis, Game Theory: Mathematical Models of Conflict and Cooperation, Editions Sophia, 2009.
- P. Morris, Introduction to Game Theory, Springer-Verlag, 1994.
- F. S. Hillier and G. J. Lieberman, Introduction to Operations Research, 11th Edition, Mc Graw-Hill, 2021.

Teaching and Learning Activities

Lectures in classroom. Theory and Exercises.

Assessment and Grading Methods

Written Exams.